IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 65. (*Cancelled*).

66. (*Withdrawn*) A wireless communication-enabled meter, comprising:

a metering device configured to generate meter-related data;

a transceiver configured to wirelessly communicate with a self-configuring wireless network; and

an interface that facilitates communication between the metering device and the transceiver, the interface including a configuration module that stores the identity of the metering device and executes a self-configuration cycle to establish connectivity with the wireless network,

wherein upon establishing connectivity, the wireless network is capable of accessing the meter-related data.

67. (*Withdrawn*) The meter of claim 66, wherein the meter-related data comprises measured usage information, monitoring information, and/or control information capable of controlling the metering device.

68. (*Withdrawn*) The meter of claim 66, wherein the transceiver and self-configuring wireless network operate in accordance with a wireless transmission protocol.

69. (*Withdrawn*) The meter of claim 66, wherein the self-configuration cycle is executed upon initialization and/or upon a detected disruption in connectivity.

70. (*Withdrawn*) The meter of claim 66, wherein the configuration module stores information regarding the identities and/or location of at least one other wireless communication-enabled meter associated with the self-configuration wireless network.

71. (*Withdrawn*) The meter of claim 66, wherein the configuration module stores routing information regarding at least one other wireless communication-enabled meter associated with the self-configuration wireless network.

72. (*Withdrawn*) The meter of claim 66, wherein the configuration module is configured to execute a polling procedure to poll at least one other wireless communication-enabled meter associated with the self-configuration wireless network.

73. (*Withdrawn*) The meter of claim 66, wherein the configuration module is configured with encryption capability to encrypt communications between the metering device and the self-configuration wireless network.

74. (*Withdrawn*) A wireless module for use with a metering device, comprising:

a transceiver configured to wirelessly communicate meter-related data with a self-configuring wireless network; and

an interface that facilitates communication between the metering device and the transceiver, the interface including a configuration module that stores the identity of the metering device and executes a self-configuration cycle to establish connectivity to the wireless network.

75. (*Withdrawn*) The wireless module of claim 74, wherein the meter-related data comprises measured usage information, monitoring information, and/or control information and/or control information capable of controlling the metering device.

76. (*Withdrawn*) The wireless module of claim 74, wherein the transceiver and self-configuring wireless network operate in accordance with a wireless transmission protocol.

77. (*Withdrawn*) The wireless module of claim 74, wherein the configuration module stores information regarding the identities and/or location of at least one other wireless module associated with the self-configuration wireless network.

78. (*Withdrawn*) The wireless module of claim 74, wherein the configuration module stores routing information regarding at least one other wireless module associated with the self-configuration wireless network.

79. (*Withdrawn*) The wireless module of claim 74, wherein the self-configuration cycle is executed upon initialization and/or upon a detected disruption in connectivity.

80. (*Withdrawn*) The wireless module of claim 74, wherein the configuration module is configured to execute a polling procedure to poll at least one other wireless module associated with the self-configuration wireless network.

81. (*Withdrawn*) The wireless module of claim 74, wherein the configuration module is configured with encryption capability to encrypt communications between the wireless module and the self-configuration wireless network.

82. (*Previously Presented*) A self-configuring wireless network, comprising:
(i)   a network cluster, comprising:
          a first sub-network including at least one self-configuring virtual node; and
          a second sub-network including at least one self-configuring virtual node,

wherein the first and second sub-networks are communicatively coupled to each other via a wireless communication link between the respective at least one self-configuring virtual nodes, and

(ii)   a virtual gate being communicatively coupled to the first and/or second sub-networks and configured to provide a communication access point between the network cluster and at least one external network.

83. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the respective at least one virtual nodes are configured to execute a self-configuration cycle to establish connectivity with a portion of the network cluster.

84. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the self-configuration cycle is executed upon initialization and/or upon a detected disruption in connectivity.

85. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the respective at least one virtual nodes stores information regarding the identities and/or location of the at least one virtual nodes and other nodes of the network cluster.

86. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the respective at least one virtual nodes include a routing table that comprises routing information about the at least one virtual nodes and other nodes of the network cluster.

87. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the respective at least one virtual nodes are configured to execute a polling procedure to poll the at least the at least one virtual nodes and other nodes of the network cluster.

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88. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the respective at least one virtual nodes are configured with encryption capability to encrypt communications between the at least one virtual nodes and other nodes of the network cluster.

89. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the virtual gate comprises a computer network gateway.

90. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the virtual gate stores geographic location of all virtual nodes within a pre-specified distance of the virtual gate.

91. (*Previously Presented*) The self-configuring wireless network of claim 82, wherein the respective at least one virtual nodes communicate under a wireless transmission protocol.

92. (*Previously Presented*) The self-configuring wireless network of claim 91, wherein the wireless transmission protocol employs at least one multiplexed communication channel such that each multiplexed channel employs a different transmission frequency.

93. (*Previously Presented*) The self-configuring wireless network of claim 91, wherein a first protocol channel is used for upstream communication and a second protocol channel is used for downstream communication.

94. (*Currently Amended*) A virtual network operations entity associated with a self-configuring wireless communication network <u>containing at least one self-configuring virtual node</u>, said virtual network operating entity comprising:

a communication interface configured to accommodate a plurality of communication protocols to facilitate communications between the self-configuring wireless communication network and at least one external network;

an event naming module configured to identify pre-specified events;

an event database configured to store information regarding the pre-specified events;

an event management module configured to process and manage occurrences of the pre-specified events; and

a communication management module configured to manage communication of the pre-specified events between the self-configuring wireless communication network and the at least one external network.

95. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising a configuration management module that specifies one or more of interface information, protocol information, and pre-specified services.

96. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising a security management module that manages security of communications between the self-configuring wireless communication network and at least one external network.

97. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising an error and recovery management module that manages detection of, and recovery from, communication errors.

98. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising a replication redundancy management module that replicates attribute information regarding the self-configuration wireless communication network.

99. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising a billing module that tracks and bills usage of services provided by the self-configuring wireless communication network.

100. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising an audit and logging module.

101. (*Previously Presented*) The virtual network operations entity of claim 94, further comprising a publication and subscription management module that manages the publication of the occurrences of the pre-specified events.

102. (*Previously Presented*) The virtual network operations entity of claim 94, wherein the communication interface facilitates remote monitoring of at least one node of the self-configuring wireless communication network.

103. (*Previously Presented*) The virtual network operation entity of claim 94, wherein the communication interface includes a customer interface.

104. (*Previously Presented*) The virtual network operations entity of claim 103, wherein the customer interface comprises a web browser interface, electronic mail interface, a customized Internet Protocol application interface, a telephone interface, a modem interface, and/or a paging device interface.

105. (*Previously Presented*) The virtual network operations entity of claim 94, wherein the communications interface includes a network interface.

106. (*Previously Presented*) The virtual network operations entity of claim 105, wherein the network interface comprises a Bluetooth interface, a cellular communication interface, a satellite communication interface, an Internet interface, a power distribution network interface, and/or any interface configured to operatively communicate with any other public or private network.

107. (*Previously Presented*) A self-configuring wireless network, comprising:

(i)   a network cluster, comprising:

a first sub-network including at least one self-configuring virtual node; and

a second sub-network including at least one self-configuring virtual node,

wherein the first and second sub-networks are communicatively coupled to each other through a communication link between the at least one self-configuring virtual node of the first sub-network and the self-configuring virtual node of the second sub-network;

(ii)   a virtual gate being communicatively coupled to the first and/or second sub-networks and configured to provide a communication access point between the network cluster and at least one external network; and

(iii)   a virtual network operations entity configured to facilitate communications between the network cluster and at the least one external network.

108. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the at least one virtual nodes are configured to execute a self-configuration cycle to connect themselves with a portion of the network cluster.

109. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the at least one virtual nodes include a routing table that comprises routing information about the at least one virtual nodes and other nodes of the network cluster.

110. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual gate comprises a computer network gateway.

111. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual gate wirelessly communicates with the at least one external network.

112. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual gate communicates with the at least one external network via wired communication.

113. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual gate comprises an intelligence module that stores geographic location of all virtual nodes within a pre-specified distance of the virtual gate such that the location of a specific virtual node may be is determined from the virtual gate.

114. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual network operations entity comprises:

a communication interface configured to accommodate a plurality of communication protocols employed during communications between the network cluster and the at least one external network;

an event naming module configured to identify pre-specified events;

an event database configured to store information regarding the pre-specified events;

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an event management module configured to process and manage occurrences of the pre-specified events; and

a communication management module configured to manage communication of the pre-specified events between the network cluster and the at least one external network.

115. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises a configuration management module that specifies one or more of interface information, protocol information, and pre-specified services.

116. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises a security management module that manages security of communications between the self-configuring wireless communication network and at least one external network.

117. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises an error and recovery management module that manages detection of, and recovery from, communication errors.

118. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises a replication redundancy management module that replicates attribute information regarding the self-configuration wireless communication network.

119. (*Previously Presented*) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises a billing module that tracks and bills usage of services provided by the self-configuring wireless communication network.

120. (***Previously Presented***) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises an audit and logging module.

121. (***Previously Presented***) The self-configuring wireless network of claim 107, wherein the virtual network operations entity further comprises a publication and subscription management module that manages the publication of the occurrences of the pre-specified events.

122. (***Previously Presented***) The self-configuring wireless network of claim 107, wherein the communication interface facilitates remote monitoring of at least one node of the network cluster.

123. (***Previously Presented***) The self-configuring wireless network of claim 107, wherein the communication interface includes a customer interface.

124. (***Previously Presented***) The self-configuring wireless network of claim 123, wherein the customer interface comprises a web browser interface, electronic mail interface, a customized Internet Protocol application interface, a telephone interface, a modem interface, and/or a paging device interface.

125. (***Previously Presented***) The self-configuring wireless network of claim 107, wherein the communications interface includes a network interface.

126. (***Previously Presented***) The self-configuring wireless network of claim 125, wherein the network interface comprises a Bluetooth interface, a cellular communication interface, a satellite communication interface, a MicroBurst interface, an Internet

communication application interface, an OrbComm interface, a GSM interface, and/or a Cellemetry interface.

127. (*Currently Amended*) A method of configuring a <u>self-configuring</u> virtual node, comprising:

executing a self configuration cycle to initialize connectivity with an associated first wireless sub-network;

periodically polling other virtual nodes of the first wireless sub-network;

executing the self-configuration cycle to establish connectivity with a second wireless sub-network if the initial connectivity with the first wireless sub-network fails or if connectivity with the first wireless sub-network has been subsequently disrupted.

128. (*Previously Presented*) The method of claim 127, wherein the self configuring cycle is based on a set of transmission rules comprising connecting only with a sub-network having a virtual node, specifying a maximum number of node hops that can be used to reach a communication point, and/or connecting to a sub-network having the smallest number of node hops to the communication point.

129. (*Previously Presented*) The method of claim 127, further comprising programming the virtual node to include information regarding the geographic location of the closest communication point.

130. (*Previously Presented*) The method of claim 127, further comprising programming the virtual node with information regarding the identities and/or location of other virtual nodes associated with the first and/or second wireless networks.

131. (*Previously Presented*) The method of claim 127, further comprising programming the virtual node with routing information regarding other virtual nodes associated with the first and/or second wireless networks.

132. (*Previously Presented*) The method of claim 127, further comprising programming the virtual node with encryption capability to encrypt communications.

133. (*Currently Amended*) A method of configuring a network containing a plurality of virtual nodes including at least one self-configuring virtual node and at least one virtual gate, said method comprising:

broadcasting a request for the virtual gate;

storing a route to the virtual gate in a routing table based on a response from a virtual node;

storing transport-agent parameters for access to the virtual gate in the routing table if a message is received from the virtual gate; and

configuring a metric indicating proximity to the virtual gate.

134. (*Previously Presented*) The method of claim 133, wherein the metric comprises 0 if the access to the designated virtual gate comprises a direct link.

135. (*Previously Presented*) The method of claim 133, further comprising:

receiving a request message from a path-seeking virtual node; and

transmitting a response to the path-seeking virtual node request message comprising availability as a path to the designated virtual gate and the metric.

136. (*Previously Presented*) The method of claim 135, wherein the path seeking virtual node is an unconfigured virtual node.

137. (***Previously Presented***) The method of claim 135, wherein the path seeking virtual node is a configured virtual node searching for a more efficient path.

138. (***Previously Presented***) The method of claim 136, wherein storing a route to the virtual gate based on the response received from the virtual node comprises:

receiving a response from a plurality of virtual nodes;

choosing a first configured virtual node to be a gateway based on metric and transport-agent parameters; and

transmitting an acknowledgement to the first configured virtual node.

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